

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

|   |  |  |
|---|--|--|
| Applicant's or agent's file reference<br><b>PP21566.002</b> | <b>FOR FURTHER ACTION</b><br>see Form PCT/ISA/220<br>as well as, where applicable, item 5 below. |  |
| International application No.<br><b>PCT/US2004/036955</b>   | International filing date (day/month/year)<br><b>04/11/2004</b>                                  | (Earliest) Priority Date (day/month/year)<br><b>04/11/2003</b> |
| Applicant<br><b>CHIRON CORPORATION</b>                      |  |  |

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 7 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b.  With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2.  Certain claims were found unsearchable (See Box II).

3.  Unity of invention is lacking (see Box III).

4. With regard to the title,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the abstract,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

- a. the figure of the drawings to be published with the abstract is Figure No. \_\_\_\_\_

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

- b.  none of the figures is to be published with the abstract.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2004/036955

**Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of Item 1.b of the first sheet)**

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:
  - a. type of material
    - a sequence listing
    - table(s) related to the sequence listing
  - b. format of material
    - in written format
    - in computer readable form
  - c. time of filing/furnishing
    - contained in the international application as filed
    - filed together with the international application in computer readable form
    - furnished subsequently to this Authority for the purpose of search
2.  In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/036955

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 7 A61K39/395 A61P35/00  
 //C07K16/28

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**Minimum documentation searched (classification system followed by classification symbols)  
 IPC 7 C07K A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, EMBASE, BIOSIS, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category * | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |
|------------|---|-----------------------|
| A          | WO 02/060485 A (IDEC PHARMACEUTICALS CORPORATION; HARIHARAN, KANDASAMY; HANNA, NABIL) 8 August 2002 (2002-08-08)<br>page 26 | 1-28                  |
| A          | US 5 801 227 A (FANSLOW, III ET AL)<br>1 September 1998 (1998-09-01)<br>the whole document                                  | 1-28                  |
| A          | WO 95/17202 A (IMMUNEX CORPORATION)<br>29 June 1995 (1995-06-29)<br>the whole document                                      | 1-28                  |
| A          | US 5 874 082 A (DE BOER ET AL)<br>23 February 1999 (1999-02-23)<br>the whole document                                       | 1-28                  |
|            |   | -/-                   |

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the International filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the International filing date but later than the priority date claimed

- \*T\* later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

- \*&\* document member of the same patent family

Date of the actual completion of the international search

Date of mailing of the international search report

4 May 2005

17/06/2005

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/036955

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document, with indication, where appropriate, of the relevant passages                       | Relevant to claim No. |
|----------|--|-----------------------|
| A        | WO 96/18413 A (THE UNIVERSITY OF<br>BIRMINGHAM) 20 June 1996 (1996-06-20)<br>the whole document<br>----- | 1-25                  |

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2004/036955

### Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:  
**Although claims 1–28 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.**
2.  Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3.  Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

#### Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/036955

| Patent document cited in search report | Publication date |    | Patent family member(s) | Publication date |
|--|------------------|----|-------------------------|------------------|
| WO 02060485                            | A 08-08-2002     | US | 2002006404 A1           | 17-01-2002       |
|  |                  | US | 2002028178 A1           | 07-03-2002       |
|  |                  | US | 2002159996 A1           | 31-10-2002       |
|  |                  | AU | 6461201 A               | 21-01-2002       |
|  |                  | CA | 2415100 A1              | 17-01-2002       |
|  |                  | CA | 2436180 A1              | 08-08-2002       |
|  |                  | CA | 2444661 A1              | 08-08-2002       |
|  |                  | CN | 1446104 A               | 01-10-2003       |
|  |                  | CN | 1494433 A               | 05-05-2004       |
|  |                  | EP | 1305045 A1              | 02-05-2003       |
|  |                  | EP | 1370292 A1              | 17-12-2003       |
|  |                  | EP | 1372724 A2              | 02-01-2004       |
|  |                  | JP | 2004502742 T            | 29-01-2004       |
|  |                  | JP | 2005503999 T            | 10-02-2005       |
|  |                  | JP | 2005503326 T            | 03-02-2005       |
|  |                  | MX | PA03000306 A            | 05-04-2004       |
|  |                  | NO | 20030128 A              | 12-03-2003       |
|  |                  | NO | 20033417 A              | 30-09-2003       |
|  |                  | NO | 20033418 A              | 30-09-2003       |
|  |                  | WO | 0204021 A1              | 17-01-2002       |
|  |                  | WO | 02060484 A1             | 08-08-2002       |
|  |                  | WO | 02060485 A2             | 08-08-2002       |
|  |                  | WO | 03039486 A2             | 15-05-2003       |
|  |                  | US | 2003103971 A1           | 05-06-2003       |
|  |                  | US | 2003180290 A1           | 25-09-2003       |
| US 5801227                             | A 01-09-1998     | AT | 255906 T                | 15-12-2003       |
|  |                  | AU | 686230 B2               | 05-02-1998       |
|  |                  | AU | 7681994 A               | 01-05-1995       |
|  |                  | CA | 2172376 A1              | 13-04-1995       |
|  |                  | DE | 69433406 D1             | 22-01-2004       |
|  |                  | DE | 69433406 T2             | 07-10-2004       |
|  |                  | DK | 724456 T3               | 13-04-2004       |
|  |                  | EP | 0724456 A1              | 07-08-1996       |
|  |                  | ES | 2211884 T3              | 16-07-2004       |
|  |                  | FI | 961285 A                | 20-03-1996       |
|  |                  | JP | 9504169 T               | 28-04-1997       |
|  |                  | NO | 961151 A                | 21-03-1996       |
|  |                  | NZ | 273504 A                | 19-12-1997       |
|  |                  | PT | 724456 T                | 30-04-2004       |
|  |                  | WO | 9509653 A1              | 13-04-1995       |
| WO 9517202                             | A 29-06-1995     | AT | 267607 T                | 15-06-2004       |
|  |                  | AU | 680102 B2               | 17-07-1997       |
|  |                  | AU | 1516895 A               | 10-07-1995       |
|  |                  | CA | 2179196 A1              | 29-06-1995       |
|  |                  | DE | 69433820 D1             | 01-07-2004       |
|  |                  | DK | 751781 T3               | 09-08-2004       |
|  |                  | EP | 0751781 A1              | 08-01-1997       |
|  |                  | ES | 2222463 T3              | 01-02-2005       |
|  |                  | JP | 9507074 T               | 15-07-1997       |
|  |                  | NO | 962526 A                | 23-08-1996       |
|  |                  | NZ | 278740 A                | 27-05-1998       |
|  |                  | NZ | 329403 A                | 29-09-2000       |
|  |                  | PT | 751781 T                | 30-09-2004       |
|  |                  | WO | 9517202 A1              | 29-06-1995       |
|  |                  | US | 5674492 A               | 07-10-1997       |

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/036955

| Patent document cited in search report |   | Publication date |    | Patent family member(s) |  | Publication date |
|--|---|------------------|----|-------------------------|--|------------------|
| US 5874082                             | A | 23-02-1999       | US | 5677165 A               |  | 14-10-1997       |
|  |   |                  | US | 5397703 A               |  | 14-03-1995       |
|  |   |                  | AT | 212038 T                |  | 15-02-2002       |
|  |   |                  | AU | 2190997 A               |  | 10-09-1997       |
|  |   |                  | DE | 69709632 D1             |  | 28-02-2002       |
|  |   |                  | DE | 69709632 T2             |  | 08-08-2002       |
|  |   |                  | EP | 0896585 A1              |  | 17-02-1999       |
|  |   |                  | WO | 9731025 A1              |  | 28-08-1997       |
|  |   |                  | AT | 258595 T                |  | 15-02-2004       |
|  |   |                  | DE | 69333403 D1             |  | 04-03-2004       |
|  |   |                  | DE | 69333403 T2             |  | 11-11-2004       |
|  |   |                  | EP | 0651797 A1              |  | 10-05-1995       |
|  |   |                  | EP | 0945465 A1              |  | 29-09-1999       |
|  |   |                  | US | 6056959 A               |  | 02-05-2000       |
|  |   |                  | US | 6004552 A               |  | 21-12-1999       |
|  |   |                  | US | 6315998 B1              |  | 13-11-2001       |
|  |   |                  | US | 2002106371 A1           |  | 08-08-2002       |
|  |   |                  | CA | 2125472 A1              |  | 20-01-1994       |
|  |   |                  | JP | 7509359 T               |  | 19-10-1995       |
|  |   |                  | JP | 3514759 B2              |  | 31-03-2004       |
|  |   |                  | JP | 2003081871 A            |  | 19-03-2003       |
|  |   |                  | JP | 2003119153 A            |  | 23-04-2003       |
|  |   |                  | US | 5869050 A               |  | 09-02-1999       |
|  |   |                  | WO | 9401547 A2              |  | 20-01-1994       |
|  |   |                  | US | 5747034 A               |  | 05-05-1998       |
| WO 9618413                             | A | 20-06-1996       | AT | 203676 T                |  | 15-08-2001       |
|  |   |                  | AU | 691996 B2               |  | 28-05-1998       |
|  |   |                  | AU | 3988495 A               |  | 03-07-1996       |
|  |   |                  | CA | 2207779 A1              |  | 20-06-1996       |
|  |   |                  | DE | 69522012 D1             |  | 06-09-2001       |
|  |   |                  | DE | 69522012 T2             |  | 25-04-2002       |
|  |   |                  | EP | 0806963 A1              |  | 19-11-1997       |
|  |   |                  | FI | 972484 A                |  | 12-06-1997       |
|  |   |                  | WO | 9618413 A1              |  | 20-06-1996       |
|  |   |                  | JP | 10510526 T              |  | 13-10-1998       |
|  |   |                  | NO | 972732 A                |  | 13-06-1997       |
|  |   |                  | NZ | 296161 A                |  | 26-10-2001       |